Project information

Project title

ECOAN WP2-OA7 Pteropod shell thickness and composition in different chemical regimes - OApteropods

Year

2015

Project leader

Agneta Fransson (NPI)

Participants

Melissa Chierici (IMR)

Collaborators:

N.Bednarsek (NOAA, USA)

K.Katsunori (JAMSTEC, JPN)

N. Harada (JAMSTEC, JPN)

P. Kuklinski (IOPAS, PL)

T. Rasmussen (UiT)

K. Zamelyak (UiT)

Flagship

Ocean Acidification

Funding Source

Fram Centre (KLD) and NFD

Summary of Results

Collection of aragonite forming L.helicina (thecosomata pteropod) in Svalbard and Nordic waters from 2012

First successful results from Micro X-ray Tomography (MXCT) scan analyses of aragonite shells of the pteropod *L.helicina* (in collaboration with JAMSTEC, Japan) are compared to the OA state measured in Svalbard fjords winter and summer (by NPI and IMR) data.

First data on isotope and an international scientific community on pteropod research

Pteropod workshop, oral presentation by Fransson, 1-3 June 2015, BAS, Cambridge, UK

Meeting + Skype (Chierici and Fransson) N. Bednarsek for pteropod collaboration, October 2015.

For the Management

This project is unique since it combines sampling of shelled pteropods in polar waters which have the lowest saturation state. This means that it is likely that aragonite forming pteropods are the "canary of the mine" indicating biological effects in the Arctic waters. See report from Miljødirektoratet and SGOA report for more information

Published Results/Planned Publications

Fransson A., M. Chierici, H. Findlay, H. Hop, S. Kristiansen, A. Wold. Seasonal of change ocean acidification state in Kongsfjorden, with implications for calcifying organisms. Submitted to Polar Biology, 2015.

Report from workshop on biological effects indicators, 17th September 2015: "Suggestions for monitoring of biological effects of ocean acidification", 2015, Report from Miljødirektoratet, M445, 208 p

Communicated Results

Pteropod workshop, oral presentation by A. Fransson, 1-3 June 2015, BAS, Cambridge, UK

Meeting + Skype (Chierici and Fransson) N. Bednarsek (USA) for pteropod collaboration, October 2015.

Interdisciplinary Cooperation

Meeting + Skype (Chierici and Fransson) N. Bednarsek (USA) for pteropod collaboration, November 2015.

Planning meeting for pteropod research in Nordic waters with K.Zamelyak (UiT) and T. Rasmussen (UiT): marine geologists and palaeoceanographers

Research visit to N. Harada and K. Katsunori, JAMSTEC, Japan 14th December 2015: marine chemists, radiologists and physical oceanpgraphers

Budget in accordance to results

Yes. Most funding goes to travel and participation at MOSJ cruises. Trvel to Japan for collaboration and transfer of samples.

Could results from the project be subject for any commercial utilization

No

Conclusions

Large emphasis on pteropods as key indicator species for biological effects on ocean acidification in ICES and Miljødirektorat report

This project is unique since it combines sampling of shelled pteropods in polar waters which have the lowest saturation state. This means that it is likely that aragonite forming pteropods are the "canary of the mine" indicating biological effects in the Arctic waters